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ABSTRACT

This workbook was designed as an easy-to-read, slower-paced text for students who have learning, reading, and language problems. As one of five workbooks to aid low achievers in problem solving, it focuses on understanding what is known and unknown in mathematical problems and how to decide which operations to use to solve problems. Word usage and comprehension are stressed, and students learn to recognize the common parts of word problems and to understand their functions. Multistep as well as one-step problems are considered. Questions within the text repeatedly involve the students' attention, and their learning is checked and reviewed within each lesson. Word problem situations reflect mathematical problems that students might actually meet. Worksheets to accompany the workbook are available in the teacher's guide. The six units in the workbook are entitled: Math Stories, Is That a Fact!, Which Operation?, Two or More Math Steps, Facts from Everywhere, and It's Your Turn. (MNS)

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MATH IN ACTION →

UNDERSTANDING Word Problems

ED276584

Mary Friedland
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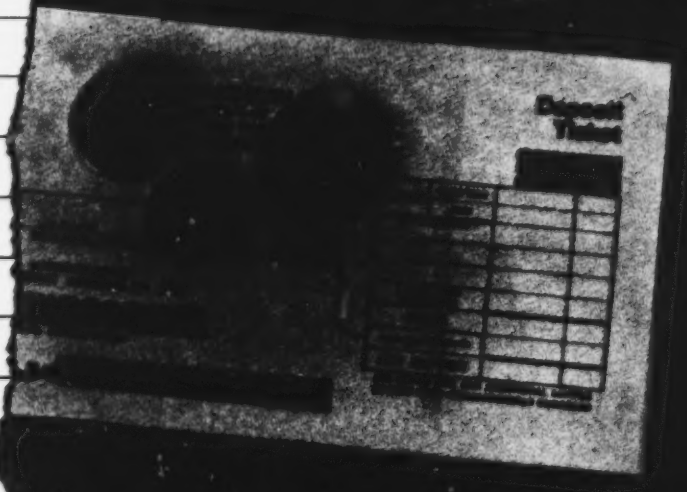

SE 047 559

UNDERSTANDING WORD PROBLEMS

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Introduction

Have you ever opened a bank account?

Opening a bank account is a real-life math problem. You must figure out so many things. For instance: how much money you need to open the account; what kind of interest rate the bank gives; when you can withdraw your money. If you don't understand those things, you can't solve that real-life problem.

Word problems are like real-life problems. (In fact, they are often about real-life problems.) To solve them, you must first *understand* them. You must understand what the words mean. You must understand what the problem asks you to do. And you must understand the clues in a problem that tell you how to solve it.

This book will teach you some ways to understand all those things. You'll learn ways to make sense out of the words that you read. You'll also learn ways to figure out what math you must do to solve the problem.

When you finish this book, word problems will be easier to do. You'll read them, you'll understand them, and you'll be ready to go on and solve them!

Unit 1

Math Stories

Look at the picture. Where is the person? What is she doing?

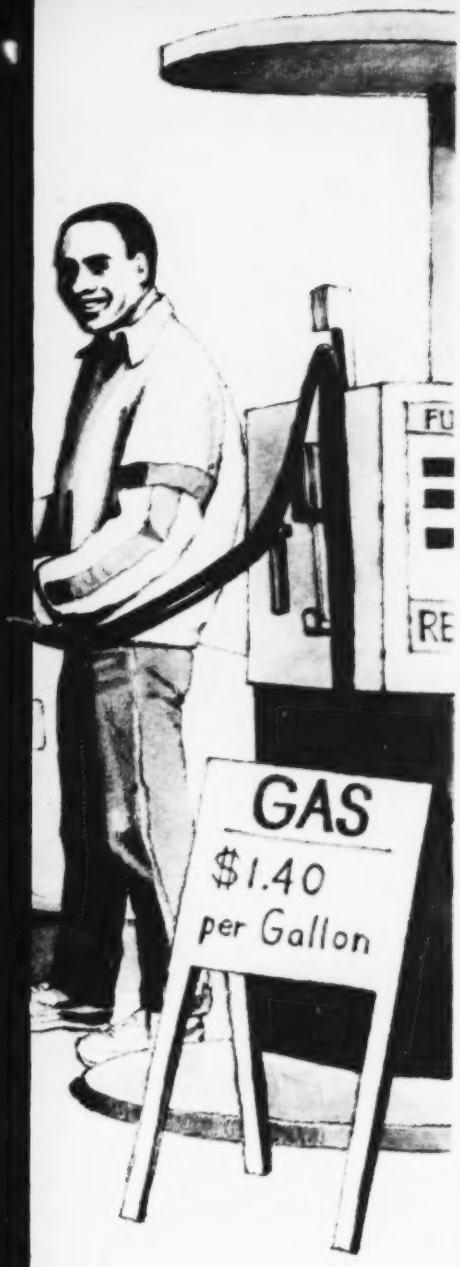
Right! She's at a gas station. She's buying gas for her car. And she's figuring out a math problem: how much the gas will cost.

Word problems are about math problems like that. But the problem is told like a story—with words. Word problems are often about *real-life math problems.* Those are problems that people figure out every day. Here are some real-life math problems:

- How much to pay for taxes.
- How much to pay at a store.
- How much to tip a person.
- How much to ask for doing a job.
- How many yards of cloth to cut for a shirt.
- How long a cake must bake.

You probably had to figure out real-life math problems this week. What were they? Write about them. First, write where you were. Next, write about your math problem. (An example is shown on the first line.)

Where you were	**Your math problem**
at a gas station	buying gasoline



Hint #1: Find out the meanings of hard words.

Know the Words

Suppose you're reading a word problem. You see some words that are hard. You don't understand them. Can you do the problem? Probably not!

Certain words are important in word problems. If you don't know what those words mean, you can't really understand the problem. And you won't know what to do. Here's a hint. Make sure you know *all* the words. How can you find out what hard words mean?

Two ways to find out what words mean are:

- Ask someone who knows. For example, ask a teacher.
- Look up the word. Use a dictionary or a math book that shows the meanings of words.

Check Them Out

Read this word problem. Look for all the words you don't know. As you find each word, write it on the lines below. Find out what the words mean. Then write their meanings.

> You're getting a loan from a bank. The loan is for $2,000. You must pay the $2,000 back to the bank. You must also pay 15% interest. How much will you pay the bank altogether?

Words **Meanings**

Hint #2: Underline the sentence that tells what answer to find.

What Answer Do You Find?

When you do a word problem, you figure out the answer to that problem. How can you know what answer to find?

_____

Right! You look for a sentence that tells you.

All word problems have a sentence that tells you what to find out. Sometimes the sentence *tells* you like this: *Find the cost of the two shirts.* Sometimes the sentence *asks* you like this: *How much will the two shirts cost?*

Here's another hint to help you understand a word problem: Look for the sentence that tells what answer to find. Then draw a line under that sentence.

Now read these word problems. Find the sentence that tells what answer to find. Draw a line under it. Then write that sentence. (The first is done.)

1. Yakim has a job. He works 5 hours on Wednesdays and 3 hours on Fridays. How many hours does he work in all?

   How many hours does he work in all?

2. Joe jogged 2 miles yesterday. He jogged 3 miles today. How many miles did he jog altogether?

   _____

3. A new bicycle tire costs $8. You need 2 tires. Find the cost of the 2 tires.

   _____

4. You want to make soup for 6 people. 1 can of soup serves 2 people. How many cans do you need?

   _____

5. Look at all the sentences you underlined. They should be in the same part of each word problem. What part is it: The beginning? The middle? Or the end?

   _____

A Math Question

You learned that all word problems have an important sentence. That sentence is often in the form of a question. Where do you think that question usually is found?

_____

Right! The question usually is found at the end of a word problem.

Word problems ask you to find out *how much* a thing is. Or they ask you to find out *how many* things there are. For example, a word problem might ask:

- *How much meat* do you need?
- *How many quarts* should you buy?
- *How many weeks* will it take to save the money?
- *How much time* will you spend driving?

Look at the word problems below. They are not finished. Finish them. Write a question for each one. Choose the question from the list above. (The first problem is done.)

1. You are making 4 sandwiches. You put 2 slices of meat in each sandwich.

   How much meat do you need?

2. You're saving money to buy a radio. The radio costs $100. You can save $20 a week.

   _____

   _____

3. You go to a store to buy a half-gallon of peach ice cream. But that ice cream is in one-quart boxes.

   _____

   _____

4. You are driving to a friend's house. Your friend lives 80 miles away. You drive 40 miles per hour.

   _____

   _____

What's It All About?

Has this happened to you? You find the sentence in a problem that tells you what answer to find. But you *don't* understand it.

Here's what you can do to help understand it. Ask yourself these questions:

"What thing is this sentence about?"

"What must I find out about that thing?"

Now read this word problem:

> Jack drives to and from his job. His job is 10 miles away from his home. How many miles does Jack drive each day he works?

Look at the underlined sentence. Then answer the questions: Put an **X** in front of your answers. Check your answers. (The right answers are upside down.)

1. What thing is the sentence about?

   _____a. The job Jack has.

   _____b. The miles Jack drives.

   _____c. The time it takes Jack to get to work.

2. What must you find out about that thing?

   _____a. *How much* Jack's gas costs each day.

   _____b. *How many* miles Jack drives each day.

   _____c. *How many* minutes Jack drives each day.

Answers: 1. b. The miles Jack drives.
2. b. How many miles Jack drives each day.

Your Turn

Draw a line under the sentence that tells what to find out. Then answer the questions about it.

> You want to buy a pair of jeans. Jeans are on sale. The regular price is $22. The sale price is $8 less. How much are the jeans?

1. What thing is the sentence about?

   _____

2. What must you find out about the thing?

   _____

Math Workout

Show what you've learned about word problems. Read each problem and do this:

- Write the words you don't know. Find out what those words mean.
- Look for the sentence that tells you what answer to find. Draw a line under it.

Then answer the questions.

1. You work at a store. Your gross pay is $250 per week. 25% of it goes for deductions. What is your take-home pay?

   Words **Meanings**

   _____

   _____

   _____

   _____

   a. Look at the sentence you underlined. What thing is it about?

   _____

   b. What must you find out about that thing?

   _____

2. You put a jacket on lay-away. The jacket costs $32. You make a $10 deposit. Find out how much you still owe.

   Words **Meanings**

   _____

   _____

   _____

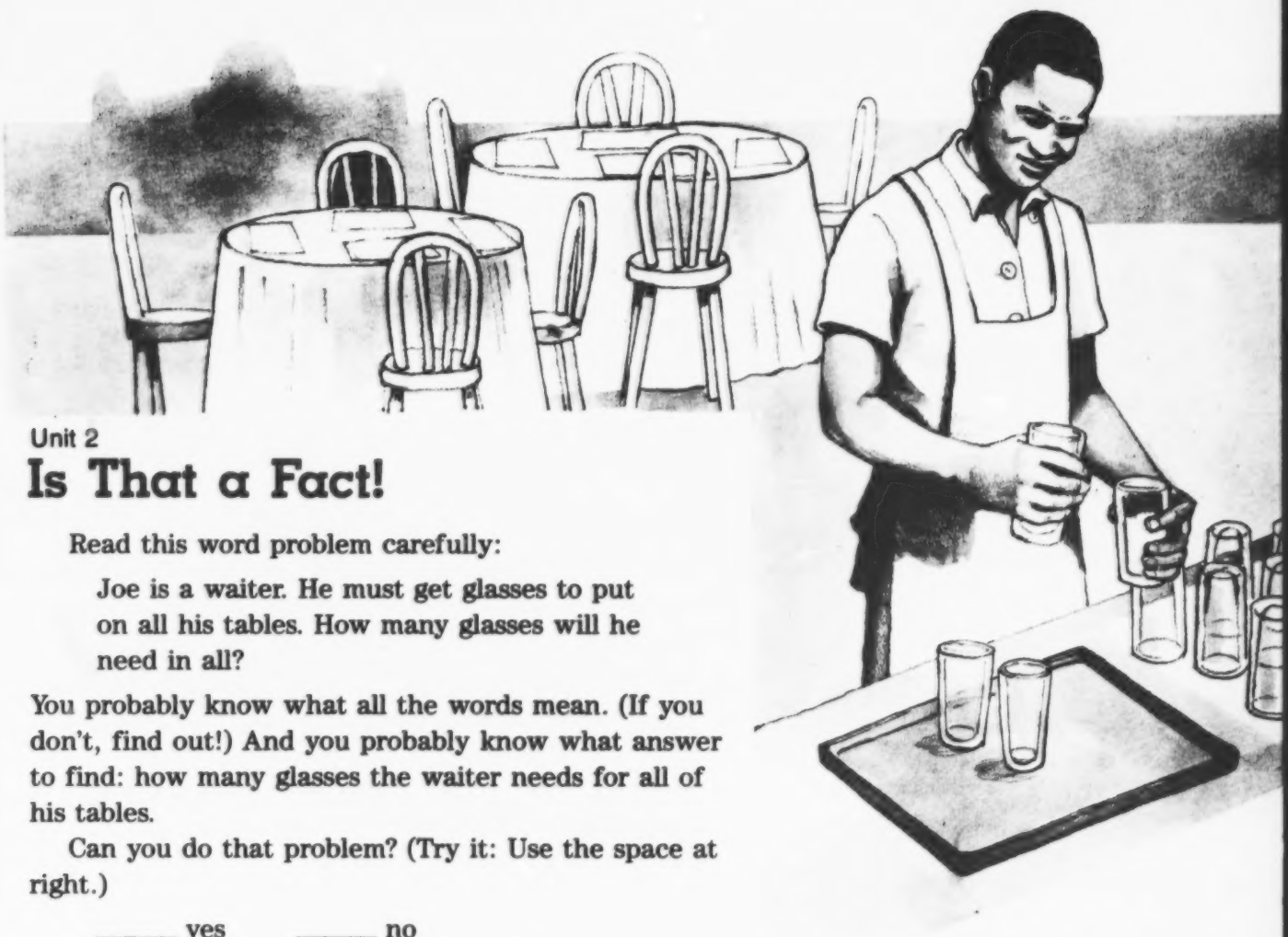
   _____

   a. Look at the sentence you underlined. What thing is it about?

   _____

   b. What must you find out about that thing?

   _____



Unit 2

Is That a Fact!

Read this word problem carefully:

> Joe is a waiter. He must get glasses to put on all his tables. How many glasses will he need in all?

You probably know what all the words mean. (If you don't, find out!) And you probably know what answer to find: how many glasses the waiter needs for all of his tables.

Can you do that problem? (Try it: Use the space at right.)

_____ yes _____ no

Why *can* you or *can't* you do the problem?

You *can't* do that word problem! Here's why: You don't have enough *facts* about the problem.

What facts must you have to do the problem? Read the problem again. Look at the question. It asks you to find out *how many glasses* the waiter needs. You need to know two facts to figure that out. What are they? Pick two below. (Then check your answers.)

_____ a. How many waiters there are.

_____ b. How many tables the waiter has.

_____ c. How many hours the waiter works.

_____ d. How many glasses should go on each table.

Answers: b. How many tables the waiter has.
d. How many glasses should go on each table.

Things and Numbers

To do a word problem, you must know certain facts. Those facts are made up of *things* and *numbers*. Read this word problem. The facts are circled.

> Sue moves into an apartment. She will pay (\$250 a month) for rent. She will stay there (12 months). How much rent will she pay in all?

Look at the question in the problem. What *thing* does it ask about? Is it Sue, the apartment, or the rent?

_____

The question asks about the *rent*. It asks how much rent Sue will pay for all the months she's at the apartment. You need two numbers to figure that out. What do you think they are? (Choose two answers.)

_____ a. The number that shows the rent for 1 month.

_____ b. The number that shows how many people live in the apartment.

_____ c. The number that shows how much Sue earns a month.

_____ d. The number that shows how many months Sue stays in the apartment.

In order to do the problem you must know: (a) how much the rent is for 1 month. What is it?

_____

You also must know: (d) how many months Sue will stay in the apartment. How many months is it?

_____

When we work out a word problem, we usually write it as a math problem. The math problem here is about the word problem on this page. Look at the words above the math problem. Finish writing them in the boxes they belong in.

months
rent for 1 month
rent for 12 months

\$250 ← rent for 1 month
x 12 ← [ ]
500
250
\$3,000 ← [ ]

Does the Fact Make Sense?

You learned that facts are about things. They are also about numbers. But a word problem may talk about many different things. And it may have many different numbers. How can you tell which to use?

_____

_____

If a thing or number *makes sense*, it's the right fact to use. Here's how to tell if it makes sense: Look at the sentence that asks you what answer to find. Ask yourself:

"What thing or things is this question about?"

"What does the question ask about those things?"

Then choose the facts. Ask yourself:

"How can these facts help find the answer?"

If a fact helps find the answer, it makes sense!

Try It Out

Look at this word problem. A sentence is underlined. And all the right facts are circled. Read the problem. Then answer the questions.

> Mara has $10.00. Dan has $5.00.
> Mara buys bread, cheese, and milk.
> The (bread) costs ($1.25.) The (cheese) costs ($1.40) and the (milk) costs ($1.75.) How much money does Mara spend altogether?

1. What *thing* is the question about?

_____

2. What does the question ask about that thing?

_____

3. What *facts* help find the answer? (One is done.)

	Number	Thing	How the fact helps find the answer
Fact:	$1.25	bread	It's one of the things Mara buys.
Fact:			
Fact:			

Hint #3: Draw a circle around each right fact.

Choose the Right Facts

You now know two good hints to follow when you read a word problem:

1. Make sure you know all the words.
   Find the meanings of all hard words.
2. Look for the sentence that tells
   you what answer to find.
   Draw a line under it.

Here's another good hint:

3. Choose the right facts.
   Draw a circle around each fact.

Your Turn

Read this word problem. (If you don't know some words, find out what they mean.) The underlined question tells you what answer to find.

Choose the facts that can help you solve the problem. Draw a circle around each fact. Then answer the questions about the problem.

> Nat and a friend are washing 6 bags of clothes at a laundromat. Nat uses 4 washing machines. Zoe uses 2 machines. Each machine uses 3 quarters. How many quarters will Nat need to run all his machines?

1. What thing is the question about?

   _____

2. What is the question asking about that thing?

   _____

3. What facts help find the answer?

	Number	Thing	How the fact helps find the answer
Fact:			
Fact:			

Math Workout

You learned three hints for understanding a word problem. Show what you learned. Read the problem below and do this:

- Write the hard words. Find out what they mean.
- Underline the question.
- Circle the right facts.

Then answer the questions.

> You drive a delivery truck. You've been doing that for 6 months. You have to make 14 deliveries today. Each delivery takes about 30 minutes. So far you've made 8 deliveries. How many deliveries do you have left?

1. What are the hard words? What do they mean?

Words	**Meanings**

2. What things is the question about?

_____

3. What does the question ask about those things?

_____

4. What facts help answer the question?

	Number	**Thing**	**How the fact helps find the answer**
Fact:			
Fact:			

Unit 3

Which Operation?

Picture this: You work in a restaurant. You must figure the total on a person's bill. She had these things to eat: a drink for $.95 and a sandwich for $2.00. What would you do to get the total?

_____

Right! You'd add.

Adding, subtracting, multiplying, and dividing are *math operations.* We must choose the right operation when we solve math problems in real life. We must do the same when we solve word problems. We must choose the operation that gives the right answer.

Sometimes people try to take short-cuts when they do a word problem. They don't really read it. They just look at the numbers in it. Then they choose an operation. For example, if they see two big numbers they subtract without thinking about it.

What's wrong with choosing operations this way?

_____

_____

_____

Right! You could get the wrong answer.

You can't choose the right operation by just looking at the numbers in a word problem. Numbers alone won't give enough information. To get that information, you must read the words carefully. They will give you *clues* to the right operation.

Questions Can Be Clues

Sometimes word problems ask certain kinds of questions. Those questions may ask you to find the *total* of many things. Or they may ask you to find *part* of things. Those questions can be clues.

For instance: Suppose you're finding an amount for the *total* of several things. (Example: all the costs on a bill.) What operation might you do?

_____

You'd probably *add* to find an amount for the total of several things. In some cases, you'd *multiply.*

Suppose you're finding an amount for *part* of things. (Example: the cost of a bill with the sales tax taken out.) What operation might you do?

_____

You'd probably *subtract* to find the amount for part of things.

Now suppose you're finding an amount for *one equal part* of things. (Example: the amount each person pays when people share a bill.) What operation might you do?

_____

Right! You'd probably *divide* to find the amount for one equal part of things.

Try It Out

This word problem has a question that is a clue to an operation. Which operation do you think it is?

> Lani had 25 raffle tickets to sell. She sold 7 of them. How many tickets did she have left?

1. The question asks you to find an amount. What is that amount for?
   - _____ a. All the tickets she must sell.
   - _____ b. Part of the tickets.
   - _____ c. One of the tickets.
2. Which operation would you do to find that amount? Write *multiply*, *subtract*, *divide*, or *add.*

   _____
3. Why did you choose that operation?

   _____

   _____

   _____

   _____

Bonus: Write a math problem for that word problem.

Facts Can Be Clues

Let's say you're doing a word problem. You understand the question. But you're still not sure which operation to do. What else can you look at for clues?

_____

Yes! Look at the facts.

Look at the numbers. Ask yourself: *"How many numbers am I working with?"* That can sometimes be a clue. Here's why: Some operations are done with *only* two numbers. What operations are they?

_____

And one operation is done with two, three, or more numbers. What operation is it?

_____

Right! You subtract, multiply, and divide with only two numbers. You add with two or more numbers.

Of course, you can't look at just the numbers. They don't give enough facts. You must also look at the *things* that go with the numbers. Ask yourself: *"Are the things alike or different?"*

You can add things that are alike. But you can't add things that are different. (For example: You can add 2 gallons of gas and 4 gallons of gas. But you can't add 2 gallons of gas and 4 miles.)

You can also subtract things that are alike. But you can't subtract things that are different. (For example: You can subtract 3 hours from 7 hours. But you can't subtract 3 hours from $7.)

Suppose the things in a problem are different. What operations might you do?

_____

Right! You'd multiply or divide.

Try It Out

Look for clues in this word problem.

Lani sold 25 raffle tickets. The price of each ticket was $3. How much money did Lani make?

1. How many numbers will you use to do this problem?

   _____ a. Just two numbers.

   _____ b. More than two numbers.

2. Look at the facts.

   a. Which fact tells what Lani sold?

   _____

   b. Which fact is the *price* of one ticket?

   _____

   c. Are the things in the facts alike or different?

   _____

3. Now read the question again. Which operation would you do to find the answer to that question?

   _____

Bonus: Write a math problem for that word problem.

Hint #4: Mark the clue words.

Words Can Be Clues

Sometimes you'll see certain words in a word problem. The words may be in the facts. They may be in the question. Those words can help you choose the right operation.

Clue words are important. They can help you understand a problem. So here's another hint to follow when you read word problems: Look for clue words. Put a mark over them.

Now read this word problem. The words that are marked are clues.

> George has \$300 in the bank. He deposits \$50. How much does he now have in the bank?

Think of what *deposit* means. Did George *put* \$50 into the bank? Or did he *take out* \$50 from the bank?

Right! George put \$50 into the bank.

Now look at the question. Think of what *now* means. Are you finding an amount *before* George puts \$50 into the bank? Or an amount *after* he puts \$50 into the bank?

Right! You're finding an amount after George puts \$50 into the bank.

What operation are *deposit* and *now* clues to?

Answer: Add

Your Turn

The clue words are marked in these word problems. What operation do you think the words are clues to? Write the sign of an operation in each math sentence. (One is done.) Then check your answers.

1. Joe had \$100 in his savings account. He withdrew \$50. How much did he have left?

   \$100 [−] \$50 =

2. Maki has 2 cassette tapes. He buys 3 more. How many does he now have?

   2 [ ] 3 =

3. Al and Eli together earn \$16. They split it evenly. How much does each person get?

   \$16 [ ] 2 persons =

4. Jill's car goes 17 miles per one gallon of gas. How many miles will it go on 8 gallons of gas?

   17 miles [ ] 8 gallons =

5. Mario earns \$200 a week. His boss deducts \$20 for taxes. How much is Mario's pay after taxes?

   \$200 [ ] \$20 =

Answers: 1. − 2. + 3. ÷ 4. × 5. −

Bonus: Do the problems on this page.

Math Workout

Read this word problem. If you see a word you don't know, find out what it means. Then do this:

- Underline the sentence that tells what answer to find.
- Circle the right facts.
- Look for words that could be clues. Mark those words by putting a ✓ over them.

> Lani had 25 raffle tickets to sell. On Monday, she sold 7 tickets. On Tuesday, she sold 8 tickets. On the next 2 days, she sold none. On Friday she sold 6 more tickets. How many tickets did she sell altogether?

1. The question in the word problem asks you to find an amount. What is that amount for?

   _____ a. All the tickets she must sell.

   _____ b. Part of the tickets.

   _____ c. One of the tickets.

2. Look at the facts you circled.

   a. How many numbers would you use to solve this problem?

   _____ Only two numbers.

   _____ More than two numbers.

   b. What *things* are you finding out about?

   _____

   c. Are the things alike or different?

   _____

3. Look at the words you marked as clues. Write the words here:

   _____

4. Now, look at the question again. Look at the facts. And look at the clue words. What operation would you do to solve the problem?

   _____

Bonus: Write a math problem for the word problem.

Unit 4

Two or More Math Steps

Suppose you're in a store. You see some socks. They cost $5.98. You also see a sweater. It costs $9.50. You wonder how much you'll spend in all if you buy them. How would you figure that out?

Right! You'd *add* the cost of the socks and the cost of the sweater.

Now suppose you decide to buy the socks and the sweater. You look at your money. All you have is $20.00. You wonder how much money you'll have left if you buy the things. How would you figure that out?

Yes! You'd *subtract*. You'd take the total cost of the socks and sweater and you'd subtract it from $20.00.

Before you could subtract *anything* from $20.00, you had to do another math step. You had to add. Many problems in real life are like that. You can't solve them until you do another math step first.

Have you ever had a problem in real life that had two math steps? Think of one. (Or ask someone to give you an example.) What was it? Write about it here.

How Many Steps?

Many word problems are about real-life problems. Some problems can be solved by doing one operation. And some can't be solved unless you first do another operation. How can you tell if a word problem has more than one step?

Here's how: Look at the sentence that tells what answer to find. Decide which operation to do. Then look for the facts in the word problem. Ask yourself:

"Can I do that operation with those facts? Or do I have to figure out something first?"

Now read this word problem.

> Mike has a part-time job. He works 4 hours on Thursdays and 6 hours on Saturdays. He earns $4.50 an hour. How much does he earn in one week?

Look at the question in the problem. What does it ask?

Right! The question asks how much money Mike earns in one week.

To answer the question you must know these two facts: (1) how much Mike earns in one hour, and (2) how many hours Mike works all week.

Look at the facts in the problem again. *How much does Mike earn in one hour?* Is that amount shown in the word problem? Or must you figure that out?

How many hours does Mike work all week? Is that amount shown in the word problem? Or must you figure that out?

Mike earns $4.50 in one hour. That amount is shown in the word problem. But you must figure out how many hours Mike works all week. How would you do that?

Bonus: Figure out how many hours Mike works all week.

The First Step

Read this problem.

> Len is buying groceries. His grocery bill is $9.00. Len gives the cashier 5 coupons. Each coupon is for $.25 *off*. The cashier subtracts the amount of all the coupons from Len's bill. How much does Len now pay?

How many steps do you think the problem has?

If you say *two steps*, you're right!

Look at the question in the problem. It asks you to find out *how much Len pays*. That's one math step. Which step is it: The first step? Or the second step?

Right! It's the second step. It's also the *last* step of a two-step problem.

What two facts do you need in order to do the last step?

Right! You need to know: (1) what Len's bill is, and (2) how much he gets off for *all* the coupons.

You must do a first step before you can do the last step. Which of those facts must you first figure out?

Right again: How much Len gets off for all the coupons.

Now read this word problem.

> Marco and Linda are getting married. They will mail invitations to their wedding. Marco will invite 23 people. Linda will invite 37 people. They must get postage stamps. A book of postage stamps has 12 stamps in it. How many books will they need?

What must you find out in the *last* step?

What must you find out in the *first* step?

Bonus:

1. Write the numbers for the first step.

   _____

   \+ _____

   60

2. Find the answer to the last step.

   _____

   12 | 60

Label the Steps

It's easy to be confused by word problems with many steps! To help you understand the word problem, do this:

- Write a math problem showing all the steps.
- Label all the numbers in each step.

Now read this problem. To solve it, you must do two steps.

> Donna is a salesperson. The store she works for is having a one-day sale. She unpacks 8 boxes of hair spray to sell. Each box has 4 cans of hair spray in it. At the end of the day, Donna has 5 cans left. How many cans did she sell?

What must you find out in the last step?

_____

_____

What must you find out in the first step?

_____

_____

Look at this math problem. It shows the two steps of the word problem. The numbers are labeled in step 1. Label the numbers in step 2.

Step 1

8	←	boxes of hair spray
× 4	←	cans in each box
32	←	cans in all

Step 2

32	←	
− 5	←	
.....	←	

Bonus: Finish solving the problem.

Math Workout

Read the two-step word problem below. Do this:

- Find the meaning of all hard words.
- Underline the sentence that tells what answer to find.
- Circle the right facts.
- Put a ✔ above the clue words.

Sam, Elena, and John go to a restaurant. They all eat dinners. Sam's dinner is $5.00. Elena's dinner is $4.90. And John's dinner is $4.50. When the check comes, they divide it evenly. How much does each person pay?

1. What are the hard words?

Words **Meanings**

_____

_____

2. What must you find out in the last step?

_____

3. What two facts must you know in order to do the last step?

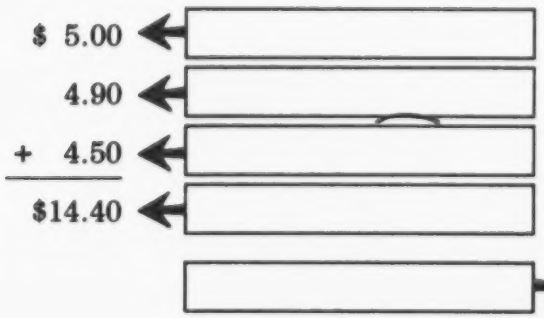
_____

4. What fact must you figure out in the first step?

_____

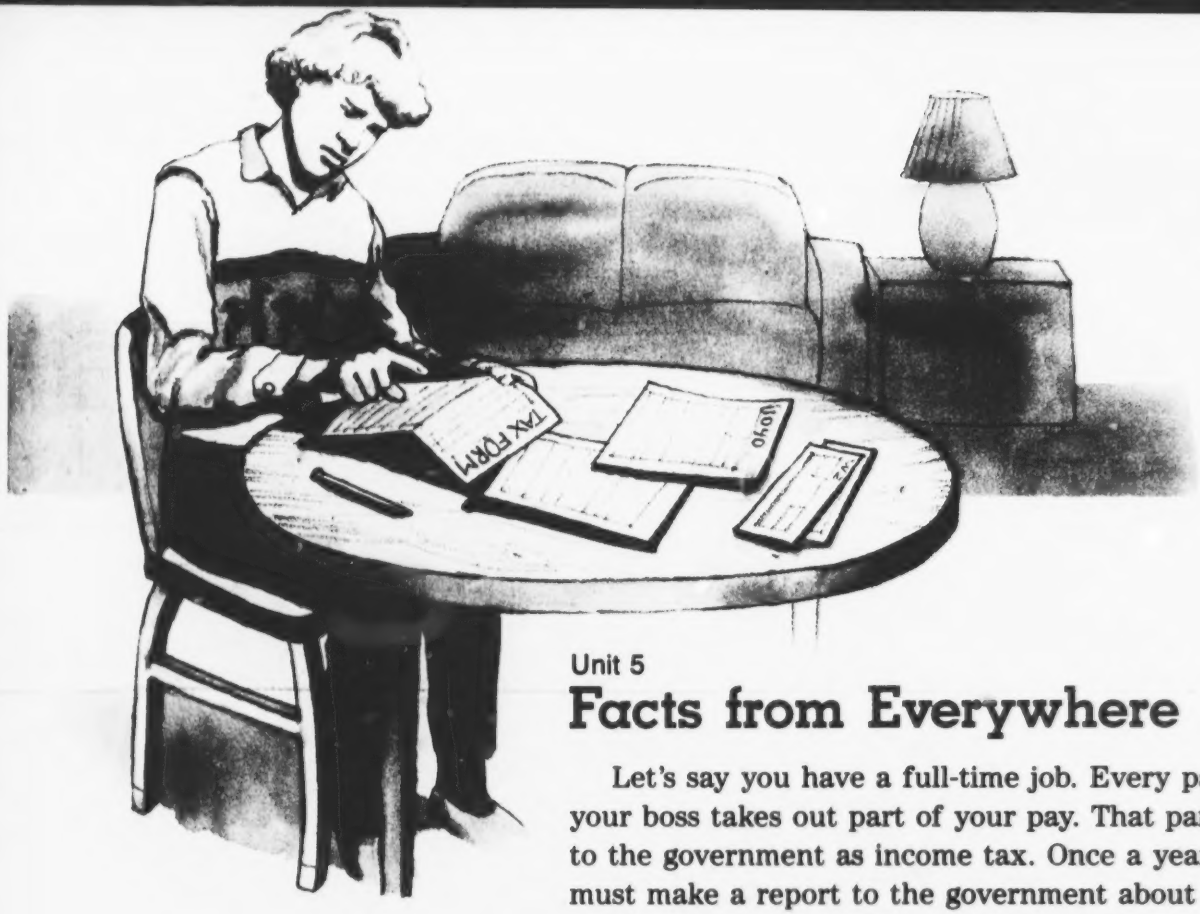
5. Now look at this math problem. It shows the two steps for the word problem. Write labels for the numbers in each step.

Step 1



Step 2

Bonus: Finish solving the problem.



Unit 5

Facts from Everywhere

Let's say you have a full-time job. Every payday, your boss takes out part of your pay. That part goes to the government as income tax. Once a year, you must make a report to the government about your income tax. To do that you must know:

- How much money you earned during the year.
- How much you already paid for income tax.
- How much income tax you're supposed to pay in all.

Where would you find that information?

_____

You'd find that information on certain *forms*. You'd get the forms from your job and from the government.

When we do math in real life, we find facts in many places. Some facts are on forms, such as tax forms and banking forms. Sometimes the facts are on charts, price tags, or ads.

Have you used forms, charts, price tags, or ads to do real-life math? What did you use? Why?

_____

_____

_____

_____

Look Around the Page

Many word problems are like real-life math problems, such as figuring income tax. Those problems often show facts the way you'd see them in real life. Those facts are on things such as store ads, charts, or graphs.

Here's a word problem like that. You'd use a chart to do it.

> Gloria is on a diet. She counts the calories in all the foods she eats. For dinner she eats a piece of chicken, a baked potato, and some carrots. How many calories does Gloria take in altogether?

Calorie Chart

Food	Amount	Calories
Apple	1 whole	100
Beans	1 serving	30
Carrots	1 serving	45
Chicken	1 piece	160
Corn	1 serving	90
Orange	1 whole	70
Potato	1 whole	100
Roast beef	4 ounces	320

You're finding out how many calories Gloria takes in. What facts do you need?

_____

_____

First of all, you need to know what foods Gloria ate. What are they?

_____

_____

_____

Right! Gloria ate a piece of chicken, a baked potato, and some carrots.

Next you need to know how many calories are in those foods. Where would you find those facts?

_____

That's right: The *calorie chart* shows the calories for the foods. On the chart, find the foods that Gloria ate and circle them. How would you figure out how many calories Gloria takes in altogether?

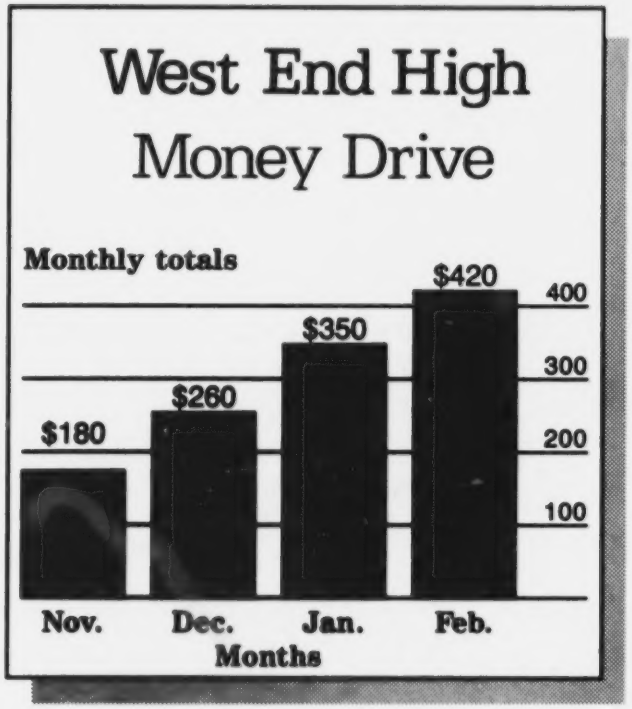
_____

Bonus: Write a math problem for this word problem. Label each number.

Your Turn

This is a two-step word problem. To solve it, you'll need to use the graph at right.

The students at West End High had a drive to raise money to buy computers. They wanted to raise $1,000. But they raised more than that. How much more did they raise?



1. What must you find out? (Look at the question.)

   _____

   _____

2. What two facts do you need to solve the problem?

   _____

   _____

3. Which fact is in the word problem? Circle it. Then write it here.

   _____

4. Which fact will you figure out from the graph?

   _____

   Circle the numbers in the graph that you'd use. What would you do with those numbers?

   _____

Bonus: Write a math problem for the word problem. Show the two steps. Label each number.

Which One?

Suppose you're doing a word problem. You must use a chart. But there are many charts on the page. How can you tell which chart to use?

_____

_____

To choose the right chart, do this: Read the problem and see what the problem is about. Look at the facts. Look for clue words. Then look for the chart that has information about all the things.

Now read this problem.

> Tara works for the Burger Palace. She works at night. How many hours in all does she work a week?

What person is the problem about?

_____

Look at the question in the problem. What is it asking you to find out?

_____

One word is important in the problem. It's a clue to the right chart. What word is it?

_____

Look at chart A. What is chart A about?

_____

What is chart B about?

_____

What is chart C about?

_____

Which chart would you use to do the problem?

_____

Circle the facts on the chart that you'd use.

A

BURGER PALACE Order List		
Item	Qty	Price
onions	5 lbs.	$3.00
tomato juice	10 cans	$5.00
tuna	6 cans	$6.00

B

BURGER PALACE Night Schedule		
Day	Worker	Hours
Mon.	Tara	4-9
Tues.	Tara	4-9
Wed.	Carmen	4-9
Thur.	Jaime	4-9
Fri.	Tara	5-12
Sat.	Tara	5-12

C

BURGER PALACE Daily Schedule		
Waiter	Station	Hours
Monroe	front room	11-4
Charles	front room	1-4
Sal	back room	11-4
Yani	counter	11-6

Bonus: Do the problem. Use a sheet of notepaper.

Too Many Facts!

To solve this problem, you'd use the menu shown on this page.

> You will eat dinner in a restaurant. You can spend no more than $10. So you can order only two or three foods. Choose the foods. Then find out how much money you'd have left if you ordered those foods.

Look at the menu. It has many facts. You can't use them all. How do you know which facts to look at?

You'd think of what the problem is about. You'd look at the facts in the problem. You'd look at the clue words. Then you'd look at the facts in the menu.

What *meal* is the problem about?

Right! The problem is about *dinner*. Now look at the menu. Can you choose foods like the *Pancake Plate*. Why or why not?

You can't choose foods like the *Pancake Plate*. They aren't served at dinner. On the menu, cross out the foods that aren't served at dinner.

Now read the problem again. How much can you spend on your meal?

Right! You can only spend $10. On the menu, cross out the foods that cost more than $10.

Now look at the foods you didn't cross out. Choose two or three of them. Write the foods and their prices. Remember: Don't go over $10!

Menu

Breakfast (served 8 a.m.–11 a.m.)

Ham and Eggs	$ 4.25
Pancake Plate	$ 3.50
French Toast	$ 2.95

Beverages (served all day)

Coffee or tea	$ .75
Cola or root beer	$ .85
Milk	$ .80

Lunch and Dinner (served 11 a.m.–7 p.m.)

Vegetable Beef Soup	$ 2.00
Chili	$ 2.45
Chef Salad	$ 4.75
Hamburger and Fries	$ 3.50
Steak Dinner	$11.00
Spaghetti and Meatballs	$ 6.50
Pork Chop Dinner	$ 7.50
Jumbo Shrimp Plate	$12.00

Your Order

Food	Price
	Total

Bonus: Find out how much money you'd have left.

Math Workout

To do this word problem, you must use the ad shown here. Read the problem. If you see a word you don't know, find out what it means. Then do this:

- Underline the question.
- Circle the right facts.
- Put a ✓ over clue words.

Marie buys a cassette tape at the House of Sound. She pays the sale price. How much does Marie save?

1. What is the problem asking you to find out?

   _____

2. What two facts do you need in order to solve the problem?

   _____

   _____

3. What facts did you circle in the problem?

   _____

4. What facts are in the ad? Circle them. Then write them here.

   _____

   _____

5. What operation would you use to solve the problem?

   _____

Bonus: Write a math problem for that word problem.

Unit 6

It's Your Turn

You learned that a word problem is a math problem told like a story—with *words*. It has these main parts: (1) A sentence that tells what answer to find. (That sentence is often a question.) (2) Facts about the problem. And (3) clues that help you find the answer.

Try writing some word problems of your own. You can use the facts listed here. Or you can make them up. Good luck!

Facts

$6.25 per hour
12 hours
30 boxes
12 cans per box
3 for $13.00
8 gallons
$1.30 per gallon
16 miles
$2.99 each
$5.00 off
3 tickets
2 for $5.00
balance of $300
check for $25
deposit of $45

A One-Step Problem

A Two-Step Problem

Congratulations! You've learned how to read and understand word problems!

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